Hempaguard XL

Product characteristics

Description
Hempaguard XL 88710 is a two component, biocide free and high-volume solids topcoat formulated based on silicone hydrogel and specially engineered for application on top of Hempaguard fouling defence systems to improve their performance. As part of Hempaguard coating systems, Hempaguard XL 88710 improves the overall smoothness of vessels Hull providing enhanced self-cleaning properties, resulting in an ultra-smooth, uniform, and repellent surface.
Hempaguard XL 88710 contains an enhanced micro-layer of hydrogel that prevents fouling organisms from firmly adhering.

Recommended use
Hempaguard XL 88710 is designed to be used as topcoat for Hempaguard systems in all global sailing patterns, coastal and freshwater or seawater exposure.
Hempaguard XL 88710 is recommended for all vessels, with no limitation on service speeds, including slow/ultraslow steaming vessels, FPSO's and vessels operating with long service intervals, up to 90 months and/or very long idle periods of up to 160 days. Also recommended for propellers.

Service temperature:
- Minimum, recommended by Hempel for dry exposure: -50°C [-58°F].

Features
- Biocide free product.
- Support maintaining the coating system smoothness.
- Out docking fuel performance.
- Support vessels trading flexibility with longer idle days.
- Very high fuel saving potential.
- Instant effect on contact with water.
- Easy repair with Hempel's Silicones Repair Standard Method.
- Flexible application covers all ambient temperature range (from 0°C to 40°C), align with Hempel's standard "Fast & Flex" specification systems.

Product safety

Flash point 32°C [90°F]

VOC content mixed product

Legislation	Value
EU	268 g/L [2.24 lb/US gal]
US (coatings)	266 g/L [2.22 lb/US gal]
US (regulatory)	267 g/L [2.23 lb/US gal]
China	268 g/L [2.24 lb/US gal]

According to specific legislation, see details in the Explanatory Notes available at Hempel website, hempel.com or at your local Hempel website.

Handling
Handle with care. Before and during use, observe safety labels on packaging and paint containers and follow all local and national safety regulations. Always consult Hempel's Safety Data Sheet for this product along with the Product Data Sheet.

For professional use only.

Product data

Product code: 88710

Product components: Base 88719 | Curing Agent 98731

Standard shade* / code: Red / Dark brownish red 59151

Gloss: Glossy

Volume solids: 69%

Specific gravity: 1 kg/L [8 lb/US gal]

Reference dry film thickness: 80 micron [3.2 mils]

Surface preparation

Cleanliness
- According to Hempel's Specification.

New build:
- According to Hempel's Specification.

* Other shades are available, please contact your local Hempel representative.

Hempaguard XL

Maintenance and Repair
- According to Hempel's Specification.

Consult Hempel's separate Surface Preparation Guidelines for more details.

Application

Mixing ratio
Base 88719 : Curing Agent 98731
(17.8 : 2.2 by volume)

It is recommended to use fixed volumes/can size for multi-component products. Do not open or mix the cans before the paint will be applied. Stir well before use. Consult Hempel regarding thinning.

Thinner
Hempel's Thinner 08080

Cleaner
Hempel's Thinner 08080

Pot life

Product temperature	20°C [68°F]
Pot life	60 min

Application method

Tool	Thinning max vol.	Application parameters
Airless spray	10%	Nozzle pressure: 150 bar [2200 psi] Nozzle orifice: 0.015-0.017"
Brush/Roller		-

If brush or roller application is used, more coats will be necessary to achieve the specified dry film thickness. Air spray may require dilution. Spray data are indicative and subject to adjustment. Pressure is for a material temperature of 20°C [68°F].

Film thickness

Specification range	Low	High	Recommended
Dry film thickness	75 micron [3.0 mils]	100 micron [4.0 mils]	80 micron [3.2 mils]
Wet film thickness	108 micron [4.3 mils]	144 micron [5.8 mils]	115 micron [4.6 mils]
Theoretical spreading rate	9.3 m²/L [379 sq ft/US gal]	6.9 m²/L [281 sq ft/US gal]	8.7 m²/L [354 sq ft/US gal]

Product may be specified in another film thickness than indicated depending on purpose and area of use. This will alter spreading rate, drying and curing time and overcoating interval. Checking paint consumption per area can improve the control of film thickness. Overthickness must be closely controlled and never locally exceed 200 micron [8.0 mils] DFT. On irregular surfaces it is recommended to employ special care in avoiding over application.

Application conditions
- To avoid condensation, apply on a clean and dry surface with a temperature that is at least 3°C [5°F] above the dew point.
- Optimal paint temperature for proper mixing, pumping and spraying is: 20°C [68°F].
- Temperature of product must be above 15°C [59°F] during application.
- According to Hempel's Specification.

Relative Humidity:
- Relative humidity must be in the range 30-85% during application.
- Relative humidity must be in the range 30-85% during curing.

Application remarks
- In order to avoid contamination on other areas, masking is recommended.
- Consult Hempel's Guidelines for application of silicone systems.

Drying and overcoating

Product compatibility
- Previous coat: According to Hempel's Specification. Recommended products are: Hempaguard
- Subsequent coat: None.

Hempaguard XL

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- Previous coat: According to Hempel's Specification. Recommended products are: Hempaguard
- Subsequent coat: None.

Drying time

Surface temperature		10°C [50°F]	20°C [68°F]	30°C [86°F]
Surface dry	hours	-	3	-
Hard dry	hours	6	3	1½
Fully cured	days	7	4	3

Determined for dry film thickness 80 micron [3.2 mils] at standard conditions, see Hempel's Explanatory Notes for details.

Drying conditions
- To obtain the drying time stated, it is important to maintain sufficient ventilation during application, drying and curing.
- Condensation on the freshly applied coating should be avoided.
- According to Hempel's Specification.

Overcoating details
- The surface must be dry and clean prior to application.
- According to Hempel's Specification.

Other remarks
- Consult Hempel for information on the minimum undocking time.
- Hempel's Specification supersedes any recommendations given in the Product Data Sheets.

Storage

Shelf life

Ambient temperature	25°C [77°F]
Base	24 months
Curing Agent	12 months

Shelf life from date of production, when stored in original, unopened containers. Thereafter, the product quality must be re-inspected. Storage at elevated temperatures may reduce shelf life. The shelf life printed on product labels is based on regional climate conditions. For advice, please consult Hempel.

Storage conditions
- Must be stored under absolutely dry conditions, protect against seeping humidity.
- The product must be stored in accordance with Safety Data Sheet, label and local regulations. Keep the containers in a dry, shaded, cool, well-ventilated space and away from sources of heat and ignition. Containers must be kept tightly closed. Handle with care.

Carbon Footprint

Dry film thickness	1 µm	1 mil
GWP (Global Warming Potential)	11.1 g CO_2e/m²	0.058 lb CO_2e/ft²

The carbon footprint is for 1 square meter / square foot of surface area with a dry film thickness of 1 micron / mil.

The scope includes raw materials, in-bound transport to the Hempel factory, Hempel manufacturing processes, and any Volatile Organic Compounds emitted during and after the application of the product.

It is calculated based on the standard shade defined in this PDS. Values may vary with shade.

Hempaguard XL

Additional documents

Additional information is available at the Knowledge Center:
https://www.hempel.com/knowledge-center
. The documents below can be found in the Technical Guidelines section:
https://www.hempel.com/knowledge-center/technical-guidelines
or at the Hempel website.

- Explanatory Notes for Product Data Sheet.
- Application methods.
- Surface Preparation.
- Consult Hempel's separate guideline on general requirements for Hempaguard/Hempasil application.

This Product Data Sheet ("**PDS**") relates to the supplied product ("**Product**") and is subject to updating from time-to-time. Accordingly, the buyer/applicator should have regard to the PDS supplied together with the relevant batch of the Product (and not an earlier version). In addition to the PDS, the buyer/applicator may receive some or all of the following specifications, statements and/or guidelines as listed below or as are available from the Hempel website under 'Products' at www.hempel.com (the "**Additional documents**"):

No.	Document description	Location/comments
1.	Technical Statement	One-off specific advice provided on request for specific projects
2.	Specification	Only issued for specific projects
3.	PDS	This document
4.	Explanatory Notes to the PDS	Available at www.hempel.com and contain relevant information about the Product testing parameters
5.	Application Instruction	Where available, at www.hempel.com
6.	Generic technical guidelines (e.g. on application and surface preparation)	Where available, at www.hempel.com

In the event of a conflict of information between the PDS and the Additional documents, the order of priority of information shall be in the order as set out above. In such event you should also contact your representative at Hempel for clarification. Furthermore, the buyer/applicator must have full regard to the relevant Safety Data Sheet provided with each Product and which can also be downloaded from www.hempel.com.

Hempel shall not be liable for defects where the application of the Product has not been made fully in accordance with the recommendations and requirements set out in the relevant PDS and the Additional Documents. The information and terms of this disclaimer apply to this PDS, the Additional documents and any other documents supplied by Hempel in respect of the Product. In addition, the Product is supplied and all technical assistance is given subject to Hempel's General Conditions of Sale, Delivery and Service, unless otherwise expressly agreed in writing.